AMENDMENTS TO THE CLAIMS

Following is a complete listing of the claims, including any amendments. Please amend the claims to read as indicated below. Amendments to the claims are shown relative to the version of the claims as filed in the response dated October 21, 2002, and examined in the Office Action mailed January 14, 2003, as no amendments submitted thereafter were entered.

1. (Currently Amended) A targeting construct ~~capable of homologous recombination with SEQ ID NO: 1,~~ comprising:

(a) a first polynucleotide sequence homologous to ~~a~~ at least a first portion of an endogenous mouse stefin homolog gene comprising SEQ ID NO::1;

(b) a second polynucleotide sequence homologous to at least a second portion of the stefin homolog gene; and

(c) a selectable marker located between the first and second polynucleotide sequences;

wherein where said targeting construct is introduced into a mouse embryonic stem cell and homologously recombines with the stefin homolog gene, said homologous recombination disrupts the stefin homolog gene.

2. (Original) The targeting construct of claim 1, wherein the targeting construct further comprises a screening marker.

3. (Currently Amended) A method of producing a targeting construct ~~capable of homologous recombination with SEQ ID NO: 1~~, the method comprising:

(a) providing a first polynucleotide sequence homologous to ~~a~~ at least a first portion of an endogenous mouse stefin homolog gene comprising SEQ ID NO:1;

(b) providing a second polynucleotide sequence homologous to at least a second portion of the stefin homolog gene;

(c) providing a selectable marker located between the first and second polynucleotide sequences; and

(d) inserting the first sequence, second sequence, and selectable marker into a vector, to produce the targeting construct.

4. (Currently Amended) A method of producing a targeting construct ~~capable of homologous recombination with SEQ ID NO: 1~~, the method comprising:

(a) providing a polynucleotide comprising a first sequence homologous to a first region of an endogenous mouse stefin homolog gene comprising SEQ ID NO:1and a second sequence homologous to a second region of ~~a~~ the stefin homolog gene; and

(b) inserting a positive selection marker between the first and second sequences to form the targeting construct

wherein where said targeting construct is introduced into a mouse embryonic stem cell and homolgously recombines with the stefin homolog gene, said homologous recombination disrupts the stefin homolog gene.

5. (Currently Amended) A mouse embryonic stem cell comprising a genome comprising a disruption in an endogenous stefin homolog gene comprising SEQ ID NO:1, wherein said cell, when introduced into a blastocyst produces a transgenic mouse comprising a genome having a disruption in the stefin homolog gene, wherein where the mouse is homozygous for the disruption, the mouse lacks production of functional protein encoded by the stefin homolog gene and exhibits, relative to a wild-type mouse, a phenotype selected from the group consisting of increased activity, schizophrenic behavior, and decreased propensity for despair or depression ~~target gene sequence disrupted by homologous recombination of the target gene sequence with a sequence homologous to a region of SEQ ID NO: 1~~.

Claim 6 is canceled.

Claim 7 is canceled.

8. (Currently Amended) A transgenic mouse comprising a genome comprising a disruption in an endogenous stefin homolog gene comprising SEQ ID NO: 1, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional protein encoded by the stefin homolog gene and exhibits, relative to a wild-type mouse, a phenotype selected from the group consisting of: increased activity, schizophrenic behavior, and decreased propensity for despair or depression ~~target gene sequence disrupted by homologous recombination of the target gene sequence with a sequence homologous to a region of SEQ ID NO: 1~~.

9. (Currently Amended) A cell derived from the ~~non-human~~ transgenic mouse ~~animal~~ of claim 8.

10. (Currently Amended) A method of producing a transgenic mouse comprising a genome comprising a disruption in an endogenous stefin homolog gene comprising SEQ ID NO: 1 ~~target gene sequence disrupted by homologous recombination of the target gene sequence with a sequence homologous to a region of SEQ ID NO: 1~~, the method comprising:

(a) introducing the targeting construct of claim 1 into a mouse embryonic stem cell;

(b) introducing the cell into a blastocyst;

(c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein said pseudopregnant mouse gives birth to a chimeric mouse; and

(d) breeding the chimeric mouse to produce the transgenic mouse wherein where the disruption is homozygous, the transgenic mouse lacks production of functional protein encoded by the stefin homolog gene and exhibits, relative to a wild-type mouse, a phenotype selected from the group consisting of: increased activity, schizophrenic behavior, and decreased propensity for despair or depression.

11. (Currently Amended) A method of identifying an agent that ameliorates a phenotype associated with a disruption in a stefin homolog gene comprising SEQ ID NO:1 ~~modulates the expression of a stefin homolog~~, the method comprising:

(a) providing the transgenic mouse of claim 8;

(b) administering an agent to the transgenic mouse ~~non-human transgenic animal~~; and

(c) determining whether the ~~expression of stefin homolog in the mouse~~ phenotype is ameliorated ~~modulated~~.

Claims 12-19 have been canceled.

20. (Currently Amended) The transgenic mouse of claim ~~8~~ 6, wherein the increased activity is characterized by increased velocity of movement in an open-field test~~, relative to a wild-type mouse~~.

21. (Canceled)

22. (Currently Amended) The transgenic mouse of claim ~~8~~ 6, wherein the decreased propensity for despair or depression is characterized by a decreased amount of time spent

immobile when tail suspended ~~time in a tail suspension test, relative to a wild type mouse~~.

23. (Canceled)

~~24~~ 12. (Currently Amended) The transgenic mouse of claim ~~8~~ 6 ~~18~~, wherein the schizophrenic behavor ~~stimulus processing deficit~~ is characterized by decreased pre-pulse inhibition.

Claims 25-32 have been canceled.